

(19)



Europäisches Patentamt

European Patent Office

Office européen des brevets

(11)

EP 0 975 105 A3

Barcode

(12)

## EUROPEAN PATENT APPLICATION

(88) Date of publication A3:  
21.03.2001 Bulletin 2001/12

(51) Int. Cl.<sup>7</sup>: H04B 10/16, H04J 14/02

(43) Date of publication A2:  
26.01.2000 Bulletin 2000/04

(21) Application number: 99113627.6

(22) Date of filing: 12.07.1999

(84) Designated Contracting States:  
AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU  
MC NL PT SE

Designated Extension States:  
AL LT LV MK RO SI

(30) Priority: 23.07.1998 JP 20761798

(71) Applicant: NEC CORPORATION  
Tokyo (JP)

(72) Inventor: Sasaki, Takamasa  
Minato-ku, Tokyo (JP)

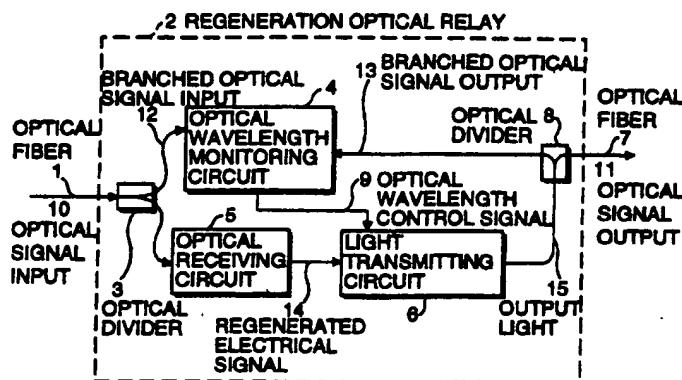
(74) Representative:  
VOSSIUS & PARTNER  
Siebertstrasse 4  
81675 München (DE)

(54) Method and device for regeneration and relay of optical transmission signal and wavelength division multiplexing transmission system using the same

(57) Provided are a regeneration relay 2 which comprises a light receiver 5 for converting an inputted optical signal 10 to an electrical signal, thereby outputting the electrical signal 14; a light transmitter 6 for converting the electrical signal 14 outputted from the light receiver 5 to an optical signal, thereby outputting the optical signal while varying a wavelength of the optical signal; and a wavelength monitor 4 for controlling the light transmitter 6 so that a wavelength of a light outputted from the light transmitter 6 and a wavelength of a

light inputted to the light receiver are made to be equal to each other. Provided is an optical regeneration relay used in a wavelength multiplexing transmitting system, which is capable of relaying a regenerated light with a simple constitution and facilitating a control of a wavelength of a signal on a transmitting path by monitoring a wavelength of a first stage wavelength multiplexing unit for outputting a signal to the transmitting path.

Fig.2



EP 0 975 105 A3



European Patent  
Office

## EUROPEAN SEARCH REPORT

Application Number

EP 99 11 3627

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (ECLA)
Y	EP 0 421 449 A (FUJITSU LTD) 10 April 1991 (1991-04-10) * abstract; claim 1; figures 1,6,8 *	1	H04B10/16 H04J14/02
Y	EP 0 841 768 A (CSELT CENTRO STUDI LAB TELECOM) 13 May 1998 (1998-05-13) * abstract; figures 1,2 *	1	
A	EP 0 732 786 A (NIPPON ELECTRIC CO) 18 September 1996 (1996-09-18) * abstract; figures 3,4 *	2,5,12 1,4,8, 15-17	
			TECHNICAL FIELDS SEARCHED (ECLA)
			H04B H04L H04J
The present search report has been drawn up for all claims			
Place of search	Date of completion of the search	Examiner	
THE HAGUE	26 January 2001	Goudelis, M	
CATEGORY OF CITED DOCUMENTS			
X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background D : document cited in the application O : non-written disclosure L : document cited for other reasons P : Intermediate document E : theory or principle underlying the invention B : member of the same patent family, corresponding document			

**ANNEX TO THE EUROPEAN SEARCH REPORT  
ON EUROPEAN PATENT APPLICATION NO.**

EP 99 11 3627

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report.  
The members are as contained in the European Patent Office EDP file on  
The European Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

26-01-2001

Patent document cited in search report	Publication date	Patent family member(s)		Publication date
EP 0421449 A	10-04-1991	JP	2020274 C	19-02-1996
		JP	3205938 A	09-09-1991
		JP	7038648 B	26-04-1995
		CA	2027051 A,C	07-04-1991
		US	5097353 A	17-03-1992
EP 0841768 A	13-05-1998	IT	T0960896 A	07-05-1998
		CA	2220244 A	07-05-1998
		JP	10154959 A	09-06-1998
		US	5917633 A	29-06-1999
EP 0732786 A	18-09-1996	JP	2723067 B	09-03-1998
		JP	8248457 A	27-09-1996
		DE	69604001 D	07-10-1999
		DE	69604001 T	31-05-2000
		US	5644423 A	01-07-1997

EPO FORM P008  
For more details about this annex : see Official Journal of the European Patent Office, No. 12/82